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Haihong Zheng

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7356

43829

7590

12/29/2005

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EXAMINER

COFFY, EMMANUEL

ART UNIT

PAPER NUMBER

2157

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/992,790

Applicant(s)

ZHENG, HAIHONG

Examiner

Emmanuel Coffy

Art Unit

2157

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

***Response to Amendment***

1. This action is responsive to the amendment filed on October 14, 2005. Claims 1-20 are directed to an "Apparatus and Associated Method For Facilitating QoS and Bearer Set-up in an IP-Based Communication System."

***Response to Arguments***

2. Applicant's arguments, see remarks, filed on October 14, 2005, with respect to the rejection(s) of claim(s) 1-4 and 17-20 under Grob et al. have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Huang et al., Marchand and Larsen.

***DUPLICATE CLAIMS WARNING***

3. Applicant is advised that should claims 15 be found allowable, claim 16 will be objected to under 37 CFR 1.75 as being substantial duplicates thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 and 17 are rejected under 35 U.S.C. §112 ¶2, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as

Art Unit: 2157

the claimed invention. A reasonable artisan skilled in the art could not comprehend the claims as written. The claim recites: "... having a network identifier identifying a network location thereof..." The network identifier is undefined within the claim language. It is not clear what the boundary of the claim is. Hence, the scope of the claim is unascertainable.

However, in order to expedite a more complete examination the Examiner asserts that this invention is understood as: "... having a network address..."

5. Any claim, which claims dependency upon claims 1 and 17, are rejected by virtue of said dependency.

6. Claims 1 and 17 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claimed limitation of "free of the network identifier" is vague and unclear. However, to expedite a complete examination of the instant application the limitation is understood as: "when generated at the first application-level entity is free of the network address identifying the network location."

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-3 and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larsen (US 6,785,510) in view of Huang et al. (US 6,266,695) in further view of Vuong (US 6,765,912).

Larsen teaches the invention substantially as claimed including a method of relaying data between mobile stations in a cellular communications system. (See abstract)

Claim 1:

Larsen substantially teaches in a communication system having a communication node selectably operable to communicate by way of a communication network with a correspondent node, the communication network having at least a first application-level entity, an improvement of apparatus for facilitating bearer setup of a bearer between the communication node and the correspondent node through operation of a selected bearer manager, the selected bearer manager having a network identifier identifying a network location thereof, said apparatus comprising: (See figs. 4a-6b; col. 3, lines 1-67, particularly 30-35). Larsen is silent as to a bearer manager. However, Huang et al. discloses a bearer manager all throughout. See col. 10, lines 5-13. Hence, it would have been obvious at the time of the invention for an artisan of ordinary skill in the art to combine the use of routing in a multi-station network taught by Larsen with the bearer manager taught by Huang because this system would enable the user to perform various review, management and control functions regarding the status and configuration of telecommunications switching systems.

Neither Larsen nor Huang teaches a first bearer setup request generator associated with the first application-level entity, said first bearer setup request generator for generating a first bearer setup request, the first bearer setup request for requesting the selected bearer manager to create the bearer between the communication node and the correspondent node, the first bearer setup request, when generated at the first application-level entity, free of the network identifier identifying the network location. However, Vuong discloses the above limitations at col. 5, line 60-col. 7, line 35. Hence, it would have been obvious at the time of the invention for an artisan of ordinary skill in the art to combine the use of routing in a multi-station network taught by Larsen and the bearer manager taught by Huang with first bearer setup request disclosed by Vuong because this system would avoid bandwidth being idle by reserving necessary resources on both networks when two different networks are used.

Claim 2:

Larsen and Huang substantially teach the apparatus of claim 1 as discussed above. Larsen and Huang are silent as to "wherein the communication network comprises an application level and a transport level, wherein the first application-level entity forms a portion of the application level, and wherein said first bearer setup request generator forms a portion of the application level." However, Vuong discloses the above limitations at col. 7, lines 36-col. 8, line 48. Hence, it would have been obvious at the time of the invention for an artisan of ordinary skill in the art to combine the use of routing in a multi-station network taught by Larsen and the bearer manager taught by Huang with first

bearer setup request disclosed by Vuong because this system would allow for a flexible bearer manager which can easily be adapted to a different architecture.

Claim 3:

Larsen and Huang substantially teach the apparatus of claim 2 as discussed above. Larsen and Huang are silent as to "wherein the first bearer setup request generated by said first bearer setup request generator is sent to the transport level." However, Vuong discloses the above limitations at col. 7, lines 36-col. 8, line 48. Hence, it would have been obvious at the time of the invention for an artisan of ordinary skill in the art to combine the use of routing in a multi-station network taught by Larsen and the bearer manager taught by Huang with first bearer setup request disclosed by Vuong because this system would allow for a flexible bearer manager which can easily be adapted to a different architecture.

Claim 15:

Larsen and Huang substantially teach the apparatus of claim 1 as discussed above, wherein the communication system comprises a radio communication system and the communication node comprises a mobile node, Larsen and Huang are silent as to "wherein the communication network comprises a first network portion and at least a second network portion, the first network portion defining a home network of the mobile node and the second network portion defining a visited network of the mobile node, wherein the first application-level entity comprises a home-network application server and wherein said first bearer setup request generator is associated with the home-network server. " However, Vuong teaches the above limitations See Fig. 1, Fig. 2 and Fig. 5, col.

1, lines 55-67 and col. 3, line 1-col. 4, line 41; col. 7, lines 15-34 and col. 8, line 53-col. 9, line 30. Hence, it would have been obvious at the time of the invention for an artisan of ordinary skill in the art to combine the use of routing in a multi-station network taught by Larsen and the bearer manager taught by Huang with the network architectures disclosed by Vuong because this system would easily be integrated within the home office thus securing greater market share.

Claim 16:

Larsen and Huang substantially teach the apparatus of claim 1 as discussed above, wherein the communication system comprises a radio communication system and the communication node comprises a mobile node, Larsen and Huang are silent as to "wherein the communication network comprises a first network portion and at least a second network portion, the first network portion defining a home network of the mobile node and the second network portion defining a visited network of the mobile node, wherein the first application-level entity comprises a visited-network application server, and wherein said first bearer setup request generator is associated with the visited-network server." However, Vuong teaches the above limitations See Fig. 1, Fig. 2 and Fig. 5, col. 1, lines 55-67 and col. 3, line 1-col. 4, line 41; col. 7, lines 15-34 and col. 8, line 53-col. 9, line 30. Hence, it would have been obvious at the time of the invention for an artisan of ordinary skill in the art to combine the use of routing in a multi-station network taught by Larsen and the bearer manager taught by Huang with the network architectures disclosed by Vuong because this system would easily be integrated within the home office thus securing greater market share.



Claim 17:

Larsen substantially teaches in a method for communicating in a communication system having a communication node selectably operable to communicate by way of a communication network with a correspondent node, the communication network having at least a first application-level entity, an improvement of a method for facilitating bearer setup of a bearer between the communication node and the correspondent node through operation of a selected bearer manager, the selected bearer manager having a network identifier identifying a network location thereof, said method comprising: (See figs. 4a-6b; col. 3, lines 1-67, particularly 30-35). Larsen is silent as to a bearer manager. However, Huang et al. discloses a bearer manager all throughout. See col. 10, lines 5-13. Hence, it would have been obvious at the time of the invention for an artisan of ordinary skill in the art to combine the use of routing in a multi-station network taught by Larsen with the bearer manager taught by Huang because this system would enable the user to perform various review, management and control functions regarding the status and configuration of telecommunications switching systems.

Neither Larsen nor Huang teaches "selectably generating a first bearer setup request at a first application-level entity, the first bearer setup request for requesting the selected bearer manager to create the bearer between the communication node and the correspondent node, the first bearer setup request, when generated at the first application-level entity, free of the network identifier identifying the network location; and providing the first bearer setup request, generated during said operation of selectably

generating, to a transport-level signaling layer entity. However, Vuong discloses the above limitations at col. 5, line 60-col. 7, line 35. Hence, it would have been obvious at the time of the invention for an artisan of ordinary skill in the art to combine the use of routing in a multi-station network taught by Larsen and the bearer manager taught by Huang with first bearer setup request disclosed by Vuong because this system would avoid bandwidth being idle by reserving necessary resources on both networks when two different networks are used.

Claim 18:

Larsen and Huang substantially teach the method of claim 17 as discussed above. Larsen and Huang are silent as to "wherein the first application-level entity comprises a first application server, and wherein the first bearer setup request generated during said operation of selectably generating is generated at the first application server." However, Vuong discloses the above limitations at col. 7, lines 36-col. 8, line 48. Hence, it would have been obvious at the time of the invention for an artisan of ordinary skill in the art to combine the use of routing in a multi-station network taught by Larsen and the bearer manager taught by Huang with first bearer setup request disclosed by Vuong because this system would allow for a flexible bearer manager which can easily be adapted to a different architecture.

Claim 19:

Larsen and Huang substantially teach the method of claim 18 as discussed above. Larsen and Huang are silent as to "further comprising the additional operation of routing, from the transport-level signaling layer entity, a separate-level signaling-layer

Art Unit: 2157

request signal to the selected bearer manager.” However, Vuong discloses the above limitations at col. 7, lines 36-col. 8, line 48. Hence, it would have been obvious at the time of the invention for an artisan of ordinary skill in the art to combine the use of routing in a multi-station network taught by Larsen and the bearer manager taught by Huang with first bearer setup request disclosed by Vuong because this system would allow for a flexible bearer manager which can easily be adapted to a different architecture.

Claim 20:

Larsen and Huang substantially teach the method of claim 19 as discussed above. Larsen and Huang are silent as to “further comprising the operation of returning a bearer-manager response message to the first application server.” However, Vuong discloses the above limitations at col. 7, lines 36-col. 8, line 48. Hence, it would have been obvious at the time of the invention for an artisan of ordinary skill in the art to combine the use of routing in a multi-station network taught by Larsen and the bearer manager taught by Huang with first bearer setup request disclosed by Vuong because this system would allow for a flexible bearer manager which can easily be adapted to a different architecture.

9. Claims 4-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larsen (US 6,785,510) in view of Huang et al. (US 6,266,695) in further view of Vuong (US 6,765,912) and in further view of Marchand (US 6,714,515).

Claim 4:

Larsen, Huang and Vuong substantially teach the apparatus of claim 3 as discussed above. Larsen, Huang and Vuong are silent as to “wherein the separate-level transport

level comprises an AAA (Authentication Authorization Accounting) entity, and wherein the first bearer setup request generated by said first bearer setup request generator is sent to the AAA entity.” However, Marchand discloses the above limitations at col. 5, lines 25-31. Hence, it would have been obvious at the time of the invention for an artisan of ordinary skill in the art to combine the use of routing in a multi-station network taught by Larsen, the bearer manager taught by Huang and first bearer setup request disclosed by Vuong with the AAA disclosed by Marchand because this system would allow for accurate billing of services provided.

Claim 5:

Larsen, Huang and Vuong substantially teach the apparatus of claim 4 as discussed above, further comprising a second bearer setup request generator associated with the AAA entity and coupled to receive an indication of the first bearer setup request generated by said first bearer setup request generator, said second bearer request generator for generating a transport-level bearer setup request, the transport-level bearer setup request for delivery to the selected bearer manager to request the bearer manager, when delivered thereat, to create the bearer between the communication node and the correspondent node. See Vuong Fig. 3 and Fig. 5, col. 7, lines 15-34 and col. 8, line 53-col. 9, line 30. Larsen, Huang and Vuong are silent as to AAA entity. Hence, it would have been obvious at the time of the invention for an artisan of ordinary skill in the art to combine the use of routing in a multi-station network taught by Larsen, the bearer manager taught by Huang and first bearer setup request disclosed by Vuong with the AAA disclosed by Marchand because this system would allow for accurate billing of

services provided.

Claim 6:

Larsen, Huang and Vuong substantially teach the apparatus of claim 5 as discussed above, wherein the communication network comprises a first network portion and at least a second network portion, the first network portion defining a home network of the mobile node and the second network portion defining a visited network of the communication node, and wherein the first application-level entity with which said first bearer setup request generator is associated and the AAA entity with which said transport-level bearer setup request generator is associated are positioned at the visited network portion See Vuong Fig. 3 and Fig. 5, col. 7, lines 15-34 and col. 8, line 53-col. 9, line 30. Larsen, Huang and Vuong are silent as to AAA entity. Hence, it would have been obvious at the time of the invention for an artisan of ordinary skill in the art to combine the use of routing in a multi-station network taught by Larsen, the bearer manager taught by Huang and first bearer setup request disclosed by Vuong with the AAA disclosed by Marchand because this system would allow for accurate billing of services provided.

Claim 7:

Larsen, Huang and Vuong substantially teach the apparatus of claim 5 as discussed above wherein the communication network comprises a first network portion and at least a second network portion, the first network portion defining a home network of the communication node and the second network portion defining a visited network portion, wherein the at least the first application-level entity comprises a first application server and a second application server, the second application server also forming a

portion of the application level, the second application server associated with the visited network portion and the first application server associated with the home network portion, said first bearer setup request generator for generating the first bearer setup request responsive to an application-level signal provided thereto. See Vuong Fig. 1, Fig. 2 and Fig. 5, col. 1, lines 55-67 and col. 3, line 1-col. 4, line 41; col. 7, lines 15-34 and col. 8, line 53-col. 9, line 30. (a home network follows the fundamentals of networking such that it is not novel or non-obvious to an artisan of ordinary skill in the art.)

Claim 8:

Larsen, Huang and Vuong substantially teach the apparatus of claim 7 as discussed above. Larsen, Huang and Vuong are silent as to "wherein the AAA entity comprises a home-network AAA entity and a visited-network AAA entity, and wherein the first bearer setup request is sent by said first bearer setup request generator to the home-network AAA entity." However, Marchand discloses the above limitations at col. 5, lines 25-31. Hence, it would have been obvious at the time of the invention for an artisan of ordinary skill in the art to combine the use of routing in a multi-station network taught by Larsen, the bearer manager taught by Huang and first bearer setup request disclosed by Vuong with the AAA disclosed by Marchand because this system would allow for accurate billing of services provided.

Claim 9:

Larsen, Huang and Vuong substantially teach the apparatus of claim 8 as discussed above, wherein said second bearer setup request message generator generates the transport-level bearer setup request by way of the visited-network AAA

entity to the selected bearer manager. See Vuong Fig. 3 and Fig. 5, col. 7, lines 15-34 and col. 8, line 53-col. 9, line 30. Larsen, Huang and Vuong are silent as to AAA entity. Hence, it would have been obvious at the time of the invention for an artisan of ordinary skill in the art to combine the use of routing in a multi-station network taught by Larsen, the bearer manager taught by Huang and first bearer setup request disclosed by Vuong with the AAA disclosed by Marchand because this system would allow for accurate billing of services provided.

Claim 10:

Larsen, Huang and Vuong substantially teach the apparatus of claim 9 as discussed above, wherein the transport-level bearer setup request message generated by said second bearer setup request message comprises an AAA-protocol message. See Vuong Fig. 3 and Fig. 5, col. 7, lines 15-34 and col. 8, line 53-col. 9, line 30. Larsen, Huang and Vuong are silent as to AAA entity. Hence, it would have been obvious at the time of the invention for an artisan of ordinary skill in the art to combine the use of routing in a multi-station network taught by Larsen, the bearer manager taught by Huang and first bearer setup request disclosed by Vuong with the AAA disclosed by Marchand because this system would allow for accurate billing of services provided.

Claim 11:

Larsen, Huang and Vuong substantially teach the apparatus of claim 10 as discussed above, the selected bearer manager to which the transport-level bearer request is delivered generates a response message, and wherein said second bearer setup request generator further detects the response message. See Vuong Fig. 3, col.

7, lines 28-34 and col. 8, lines 49-52.

Claim 12:

Larsen, Huang and Vuong substantially teach the apparatus of claim 11 as discussed above, wherein the response message generated by the selected bearer forms an AAA-protocol message. Larsen, Huang and Vuong are silent as to AAA entity. Hence, it would have been obvious at the time of the invention for an artisan of ordinary skill in the art to combine the use of routing in a multi-station network taught by Larsen, the bearer manager taught by Huang and first bearer setup request disclosed by Vuong with the AAA disclosed by Marchand because this system would allow for accurate billing of services provided.

Claim 13:

Larsen, and Huang substantially teach the apparatus of claim 11 as discussed above, Larsen, and Huang are silent as to "wherein said second bearer setup request generator further returns an indication of the response message to said first bearer setup request generator." However, See Vuong Fig. 3, col. 7, lines 28-34 and col. 8, lines 49-52.

Hence, it would have been obvious at the time of the invention for an artisan of ordinary skill in the art to combine the use of communications system taught by Larsen and Huang with the second bearer setup request generator as taught by Vuong because this would provide a redundant setup mechanism for the system by providing a separate path for bearer setup.



Claim 14:

Larsen substantially teaches the apparatus of claim 13 as discussed above, wherein said first bearer setup request message generator further generates an application-level message for communication to the mobile node, the application-level message indicative of the response message generated by the selected bearer manager. (See figs. 4a-6b; col. 3, lines 1-67, particularly 30-35). Larsen is silent as to a bearer manager. However, Huang et al. discloses a bearer manager all throughout. See col. 10, lines 5-13. Hence, it would have been obvious at the time of the invention for an artisan of ordinary skill in the art to combine the use of routing in a multi-station network taught by Larsen with the bearer manager taught by Huang because this system would enable the user to perform various review, management and control functions regarding the status and configuration of telecommunications switching systems.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Dekeyser (US 6,892,389) teaches « Broadcasting Unit To Broadcast  
Distributive Interactive Services In An Access Network »

### CONCLUSION

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Coffy whose telephone number is (571) 272-3997. The examiner can normally be reached on 8:30 - 5:00 P.M.

Art Unit: 2157

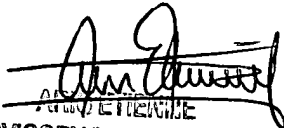
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571) 272-3997. The fax phone number for the organization where this application or proceeding is assigned is 571-272-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Emmanuel Coffy  
Patent Examiner  
Art Unit 2157

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EC  
December 21, 2005

  
ARIO ETIENNE  
SUPERVISORY PATENT EXAMINER  
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